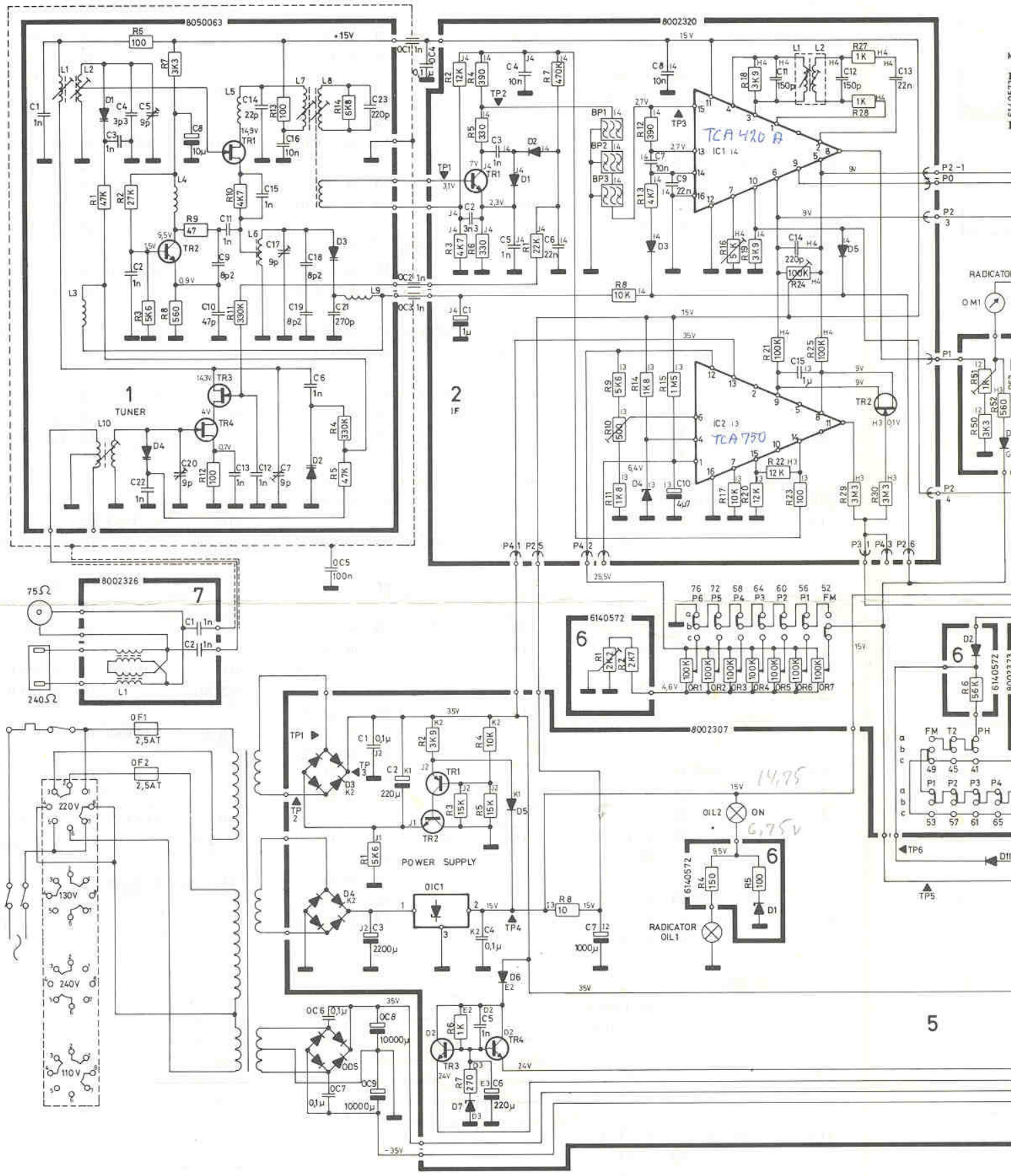
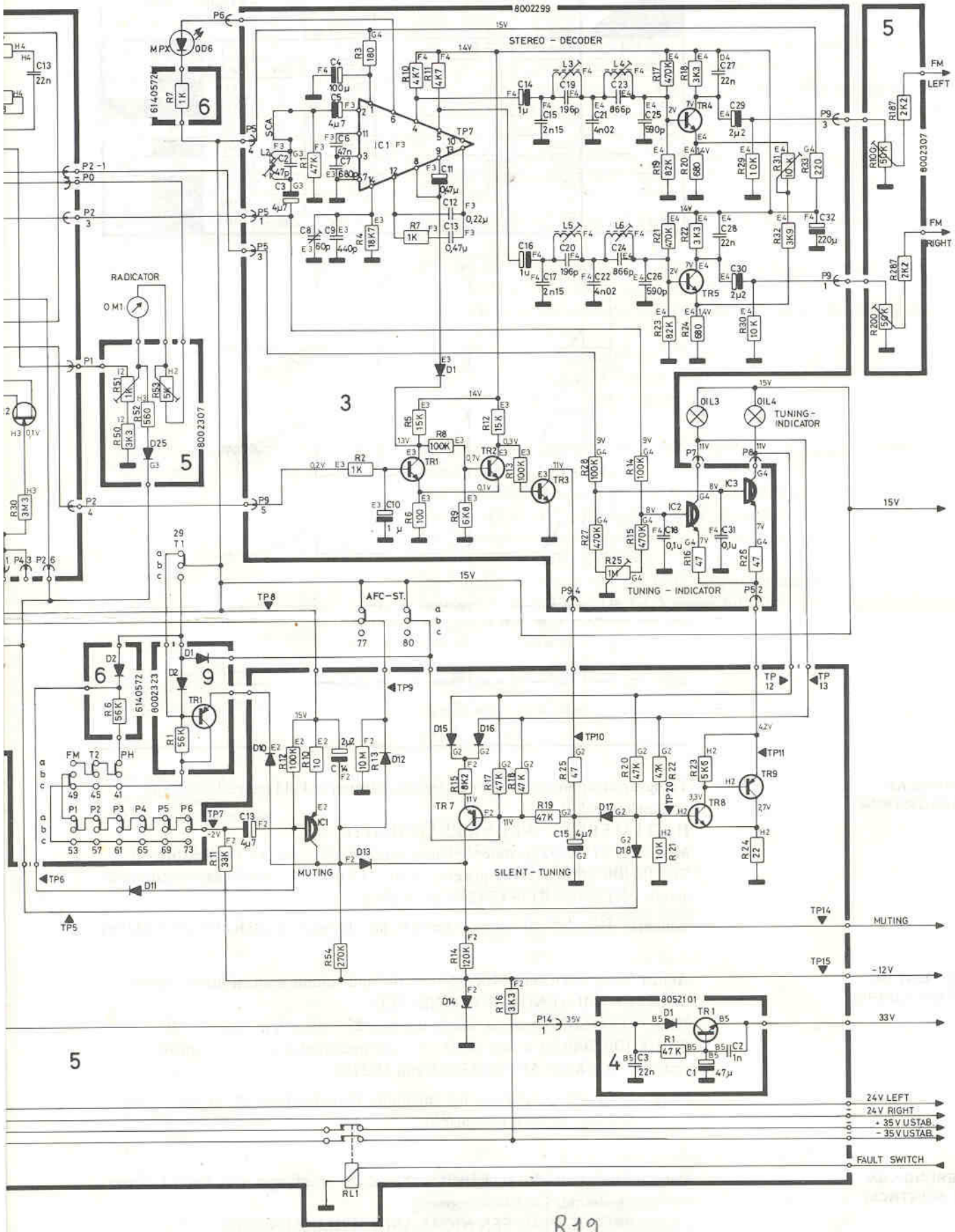
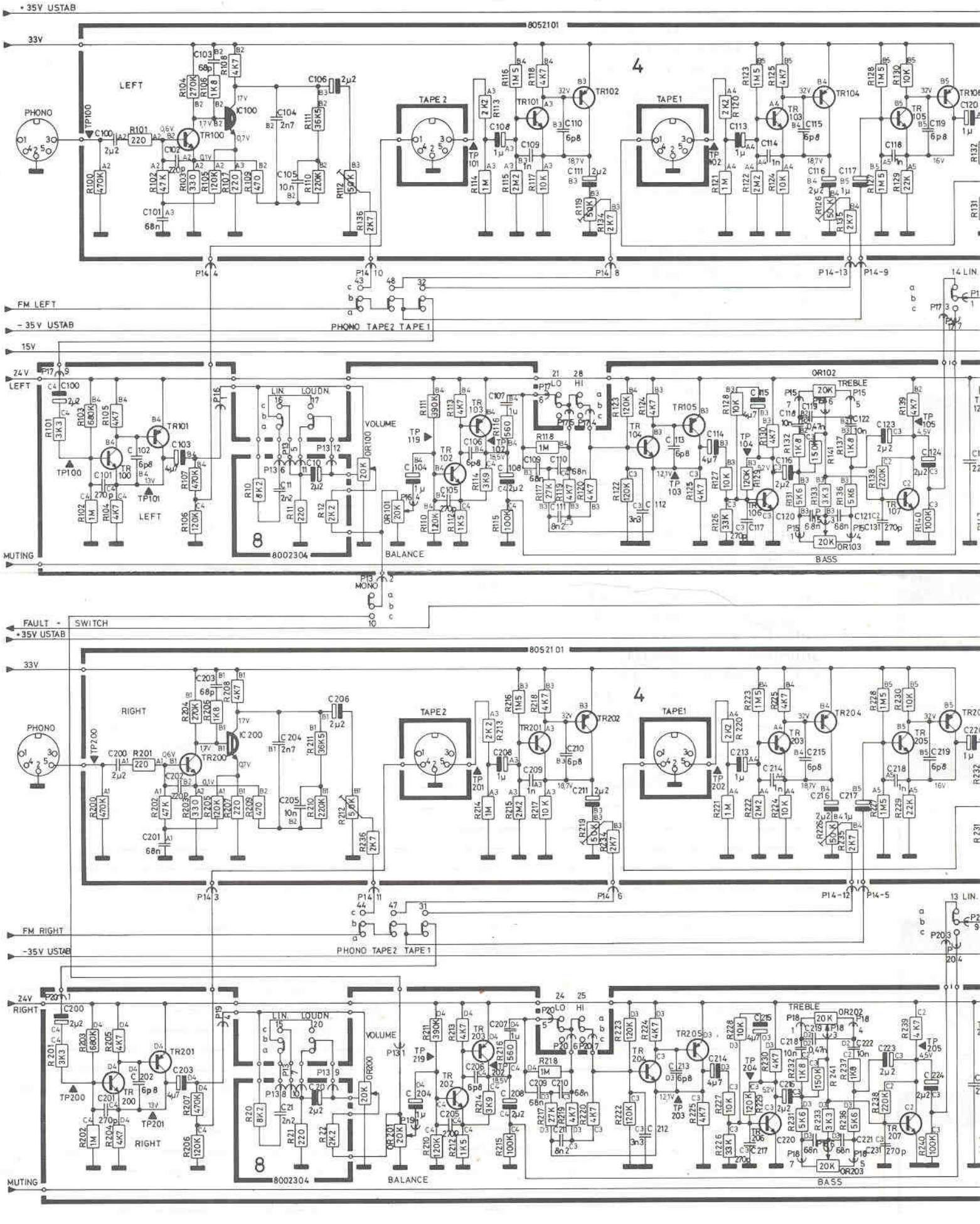
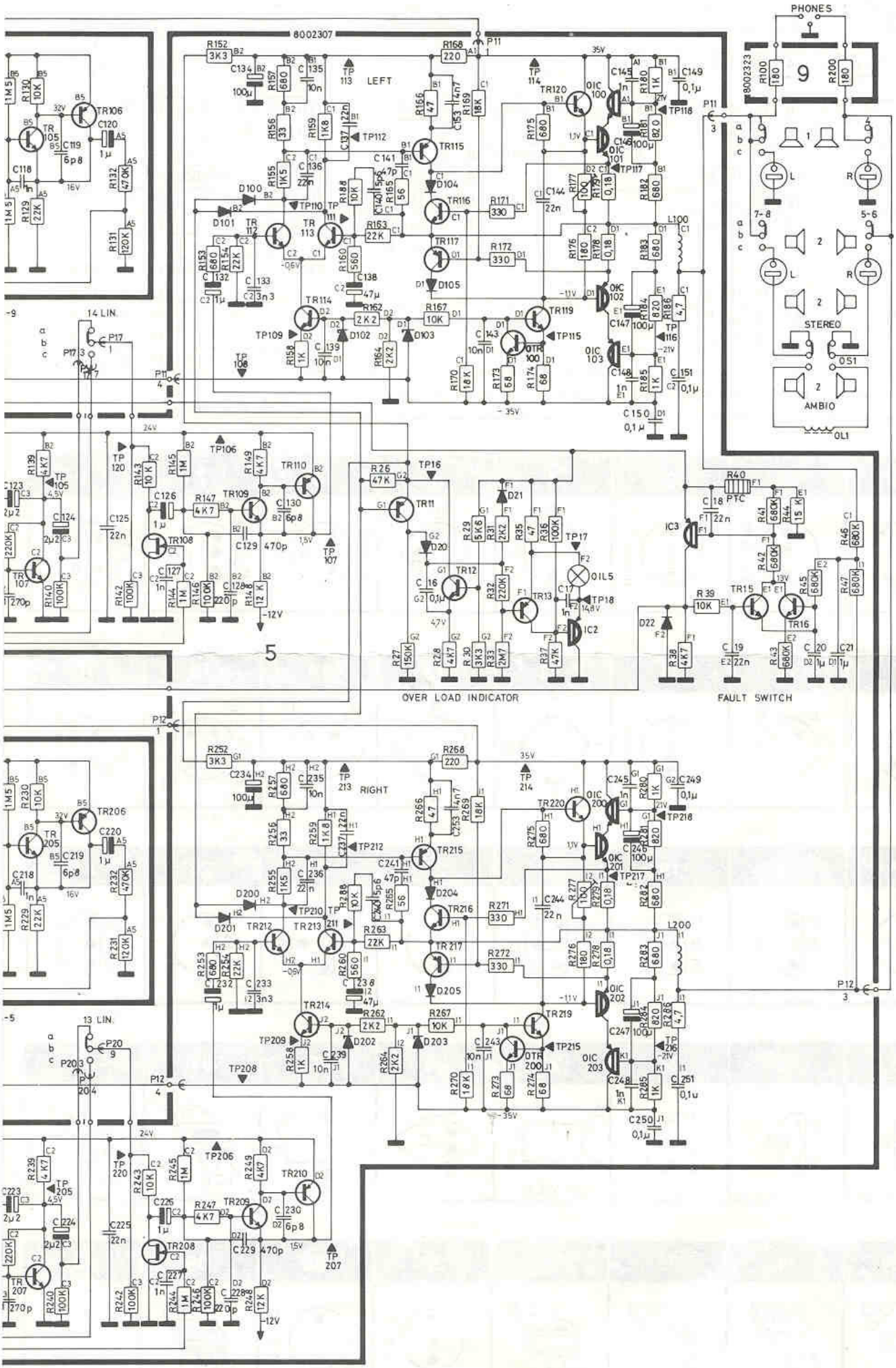

8050063
8002320
8002326
8002307
6140572
TUNER
IF
POWER SUPPLY
TCA 420 A
TCA 750
220V
240V
130V
110V
MONO
LINEAR
LOUDNES
LO
FILTER
HI
TAPE1
ON
PHONO
TAPE2
FM
P1


8002299
STEREO - DECODER
MPX
OD6
SCA
IC1
TP7
FM LEFT
FM RIGHT
8002307
RADICATOR
OM1
D25
TR1
TR2
TR3
TR4
TR5
D1
TUNING - INDICATOR
OIL3
OIL4
IC2
IC3
15V
AFC-ST.
TP8
TP9
TP10
TP11
TP12
TP13
TP14
TP15
TP5
TP6
TR7
TR8
TR9
D10
D11
D12
D13
D14
D15
D16
D17
D18
MUTING
SILENT - TUNING
FM T2 PH
P1 P2 P3 P4 P5 P6
RL1
80052101
24V LEFT
24V RIGHT
+ 35V USTAB.
- 35V USTAB.
FAULT SWITCH
-12V
33V
FM
P1
P2
P3
P4
P5
P6
AFC/ST
49 50 51 52
53 54 55 56
57 58 59 60
61 62 63 64
65 66 67 68
69 70 71 72
73 74 75 76
77 78 79 80

R19
afbrudt


+35V USTAB
33V
8052101
LEFT
PHONO
TP100
C100
2µ2
R101
220
TR100
IC100
C103
68p
R104
270K
R106
1K8
R108
4K7
C102
6p8
C101
68n
R100
470K
R102
47K
R103
330
R105
120K
R107
220
R109
470
C105
10n
C106
2µ2
C104
2n7
R111
36K5
R110
220K
R112
50K
R136
2K7
TAPE 2
TAPE1
TR101
TR102
TR103
TR104
TR105
TR106
C108
1µ
C109
1n
C110
6p8
C111
2µ2
C113
1µ
C114
1n
C115
6p8
C116
2µ2
C117
1µ
C118
C119
6p8
C120
1µ
R114
1M
R115
2M2
R116
1M5
R117
10K
R118
4K7
R119
50K
R134
2K7
R121
1M
R122
2M2
R123
1M5
R124
10K
R125
4K7
R126
50K
R135
2K7
R127
1M5
R128
1M5
R129
22K
R130
10K
R131
R132
P14 4
P14 10
P14 8
P14-13
P14-9
14 LIN.
FM LEFT
-35V USTAB
15V
24V
PHONO TAPE2 TAPE1
P17 9
P16
LIN.
LOUDN.
VOLUME
TP 119
TP 101
TP 102
TP 103
TP 104
TP 105
0R100
0R101
0R102
0R103
TREBLE
BASS
BALANCE
LO
HI
P17 21
P17 28
P13 MONO
MUTING
8002304
FAULT
SWITCH
RIGHT
TP200
TP201
TP202
TP203
TP204
TP205
IC 200
TR200
TR201
TR202
TR203
TR204
TR205
0R200
0R201
0R202
0R203
P14 3
P14 11
P14 6
P14-12
P14-5
13 LIN.
FM RIGHT
-35V USTAB
PHONO TAPE2 TAPE1
P20 24
P20 25
P20 5
P20 6
P20 7
P19
P13 1
P18 1
P18 2
P18 3
P18 4
P18 5
P18 6
P18 7
P2 204


8002307
PHONES
8002323
R100 180
R200 180
9
1
L
R
7-8
5-6
STEREO
OS1
AMBIO
OL1
P11
LEFT
TP 113
TP 114
R152 3K3
R168 220
C134 100µ
C135 10n
R157 680
R156 33
R159 1K8
C137 22n
TP112
R155 1K5
C136 22n
R166 47
C153 4n7
R169 18K
C141 47p
R165 56
R184 10K
TP110
D100
D101
TR112
TR113
R153 680
R154 22K
C132 1µ
C133 3n3
R160 560
C138 47µ
R163 22K
TR114
TP109
R158 1K
C139 10n
R162 2K2
R164 2K2
D102
D103
TP108
TR115
TR116
TR117
D104
D105
R167 10K
TR119
TP115
C143 10n
OTR 100
R170 1.8K
R173 6.8
R174 68
C150 0,1 µ
TR120
OIC 100
OIC 101
C145 1n
R180 1K
C149 0,1µ
TP118
R175 680
C146 100µ
R181 82 Ω
TP117
R177 100
R179 0,18
R182 680
C144 22n
R171 330
R172 330
L100
R176 180
R178 0,18
R183 680
OIC 102
OIC 103
R184 820
R186 4,7
C147 100µ
TP116
R185 1K
C148 1n
C151 0,1µ
-11V
-21V
-35V
P11 3
P11 4
14 LIN.
P17
P17 3
P17 7
24V
TP 120
TP106
TP 105
TP 107
TP 108
TP 109
TP 110
TP 111
TP 112
TP 113
TP 114
TP 115
TP 116
TP 117
TP 118
TP 119
TP 120
R139 4K7
R143 10 K
R145 1M
R149 4K7
TR110
C123 2µ2
C124 2µ2
C125 22n
C126 1µ
R147 4K7
TR109
C130 6p8
TR108
C129 470p
1,5V
TR 107
R140 100K
R142 100K
C127 1n
R144 1M
R146 100K
C128 220p
R148 12 K
-12V
5
R26 47K
TP16
TR11
D20
D21
R29 5K6
R31 2K2
R35 47
R36 100K
TP17
TR12
TR13
C16 0,1µ
R32 220K
C17 1n
TP18
14,8V
0IL5
IC2
R27 150K
R28 4K7
R30 3K3
R33 2M7
R37 47K
OVER LOAD INDICATOR
R40 PTC
IC3
C18 22n
R41 680K
R44 15 K
R46 680K
R42 680K
R45 680K
R47 680K
TR15
TR16
R39 10K
D22
R38 4K7
C19 22n
R43 680K
C20 1µ
C21 1µ
FAULT SWITCH
P12 1
P12 3
P12 4
R252 3K3
C234 100µ
C235 10n
R257 680
R256 33
R259 1K8
C237 22n
TP212
R255 1K5
C236 22n
R266 47
C253 4n7
R269 18K
C241 47p
R265 56
R288 10K
TP210
D200
D201
TR212
TR213
R263 22K
R253 680
R254 22K
C232 1µ
C233 3n3
R260 560
C238 47µ
R262 2K2
TR214
TP209
R258 1K
C239 10n
R264 2K2
D202
TP208
TP213
TP214
R268 220
TR220
OIC 200
OIC 201
OIC 202
OIC 203
C245 1n
R280 1K
C249 0,1µ
TP218
R275 680
C240 100µ
R281 820
TP217
R277 100
R279 0,18
R282 680
C244 22n
R271 330
R272 330
L200
R276 180
R278 0,18
R283 680
R267 10K
TR219
TP215
C243 10n
OTR 200
R270 1.8K
R273 68
R274 68
C247 100µ
TP216
R284 820
R285 1K
C248 1n
C251 0,1µ
C250 0,1µ
TR215
D203
D204
TR216
TR217
D205
-35V
13 LIN.
P20
9
P20 3
P20 4
TP 220
TP206
TP 205
TP 207
TP 208
TP 209
TP 210
TP 212
TP 213
TP 214
TP 215
TP 216
TP 217
TP 218
R239 4K7
R243 10K
R245 1M
R249 4K7
TR210
C223 2µ2
C224 2µ2
C225 22n
C226 1µ
R247 4K7
TR209
C230 6p8
TR208
C229 470p
1,5V
TR 207
R240 100K
R242 100K
C227 1n
R244 1M
R246 100K
C228 220p
R248 12K
-12V

TRANSISTOR AND IC LIST

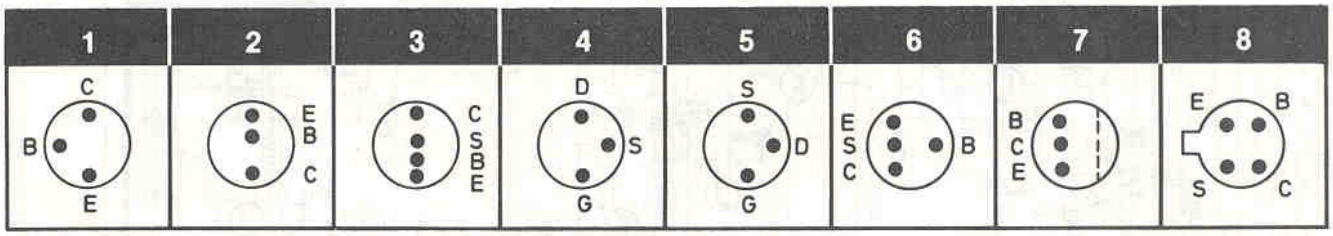
0TR100/200	8320383	32	ON 595
		32	BO 135
		32	BD 165 S
0IC1	8340064	105	LM 340T-15V
		105	7815 CU
		105	PA 7815 C
0IC100/200	8340042	39	TIP 141
0IC101/201			
0IC102/202	8340041	39	TIP 146
0IC103/203			
1TR1	8320136	21	TIS 88
		21	3 C 2
		4	U 1981 E
		21	2N 5245
		22	3C2P
		21	SPF 2060
1TR2	8320112	23	BF 495
		23	BF 255
1TR3	8320119	21	TIS 88 A
1TR4		21	2N 5245
		4	U 1981 E
		21	SPF 2038
2TR1	8320311	23	BF 240
2TR2	8320289	24	2N 5458
2IC2	8340033		TCA 420 A
2IC2	8340090		TCA 750
3TR1	8320097	18	BC 547 B
3TR2		18	BC 237 B
3TR3		18	BC 171 B
		18	BC 182 B
		17	BC 182 BL
3TR4	8320285	18	BC 183 C
3TR5		17	BC 183 CL
		18	BC 548 C
3IC1	8340103		MC 1310
			MC 1310 N
			CA 1310 E
3IC2	8340043	19	MPSA 13
3IC3			
4TR1	8320092	18	BC 547 B
		18	BC 182 B
		17	BC 182 BL
4TR	*8320344	18	BC 550 B
100/200		18	BC 384 BN
4TR	*8320095	18	BC 549 B
101/201		18	BC 184 BN
4TR102/202	8320069	18	BC 559 B
		18	BC 214 B
		17	BC 214 BL
4TR	*8320095	18	BC 549 B
103/203		18	BC 184 BN
4TR104/204	8320069	18	BC 559 B
		18	BC 214 B
		17	BC 214 BL
4TR	*8320095	18	BC 549 B
105/205		18	BC 184 BN
4TR106/206	8320069	18	BC 559 B
		18	BC 214 B
		17	BC 214 BL
4IC100/200	8340054	19	MPSA 13
		19	TPSA 13
5TR1	8320242	18	BC 556 B
5TR2	8320148	10	BC 142
5TR3	8320092	18	BC 547 B
5TR4		18	BC 182 B
		17	BC 182 BL
5TR7	8320152	18	BC 212 B
		17	BC 212 BL
		18	BC 557 B
		18	BC 251 B
		18	BC 307 B
5TR8	8320108	18	BC 172 B
		18	BC 238 B
		18	BC 548 B
		18	BC 183 B
		17	BC 183 BL
5TR9	8320316	18	BC 327 – 25
5TR11	8320152	18	BC 212 B
		17	BC 212 BL
		18	BC 557 B
		18	BC 251 B
		18	BC 307 B
5TR12	8320097	18	BC 547 B
		18	BC 237 B
		18	BC 171 B
		18	BC 182 B
		17	BC 182 BL
5TR13	8320104	18	BC 558 B
		18	BC 308 B
		18	BC 213 B
		17	BC 213 BL
		18	BC 252 B
5TR15	8320108	18	BC 172 B
5TR16		18	BC 238 B
		18	BC 548 B
		18	BC 183 B
		17	BC 183 BL
5TR	*8320095	18	BC 549 B
100/200		18	BC 184 BN
5TR101/201	8320069	18	BC 559 B
		18	BC 214 B
		17	BC 214 BL
5TR	*8320095	18	BC 549 B
102/202		18	BC 184 BN
5TR103/203	8320069	18	BC 559 B
		18	BC 214 B
		17	BC 214 BL
5TR	*8320095	18	BC 549 B
104/204		18	BC 184 BN
5TR105/205	8320069	18	BC 559 B
		18	BC 214 B
		17	BC 214 BL

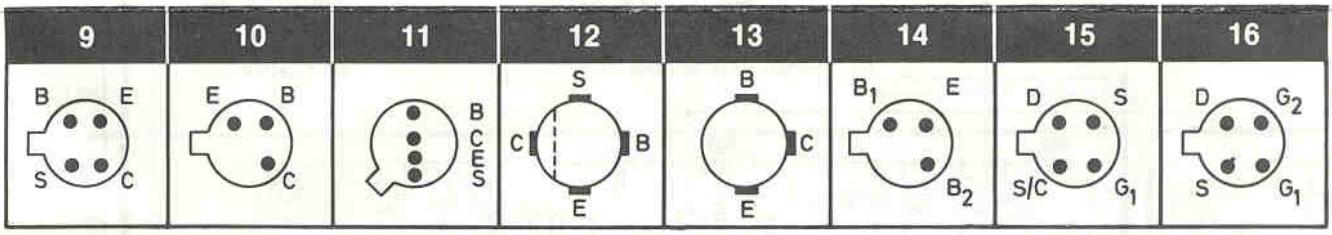
5TR			
106/206	*8320344	18	BC 550 B
5TR107/207		18	BC 384 BN
5TR108/208	8320289	24	2N 5458
5TR	*8320095	18	BC 549 B
109/209		18	BC 184 BN
5TR110/210	8320069	18	BC 559 B
		18	BC 214 B
		17	BC 214 BL
5TR	*8320382	18	BC 547 C
112/212		18	BC 182 B
5TR113/213		17	BC 182 BL
		18	BC 237 C

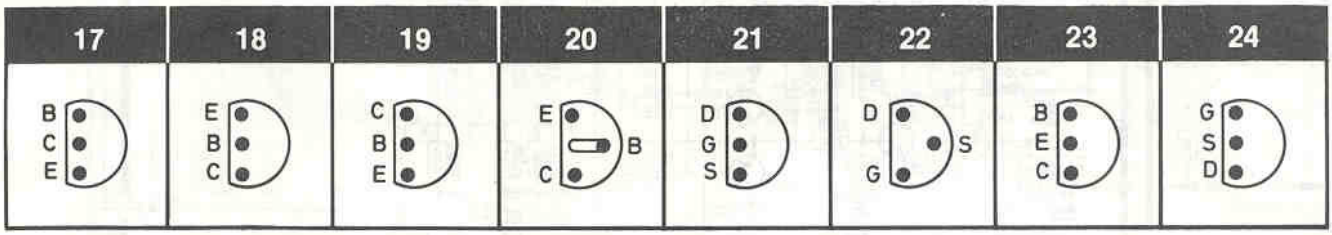
5TR114/214	8320097	18	BC 547 B
		18	BC 237 B
		18	BC 171 B
		18	BC 182 B
		17	BC 182 BL
5TR115/215	8320365	19	MPSH 54
5TR116/216	8320108	18	BC 172 B
		18	BC 238 B
		18	BC 548 B
		18	BC 183 B
		17	BC 183 BL

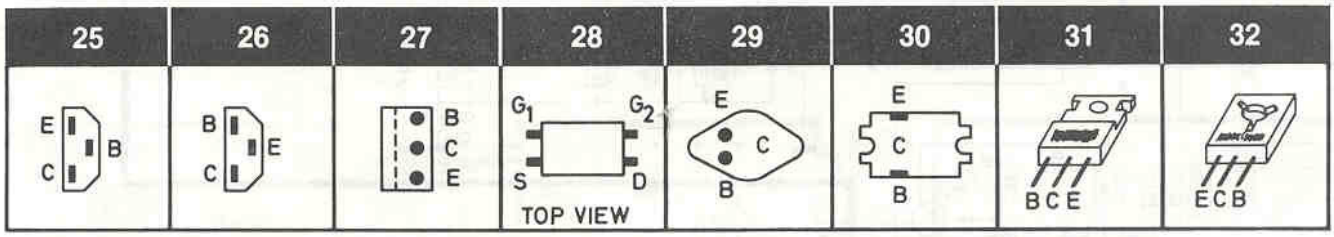
5TR117/217	8320104	18	BC 558 B
		18	BC 308 B
		18	BC 213 B
		17	BC 213 BL
		18	BC 252 B
5TR119/219	8320321	19	MPSA 06
5TR120/220			
5IC1	8340025	18	BC 516
5IC2		19	MPSA 65
5IC3		19	SPS 5431
9TR1	8320152	18	BC 212 B
		17	BC 212 BL
		18	BC 557 B
		18	BC 251 B
		18	BC 307 B

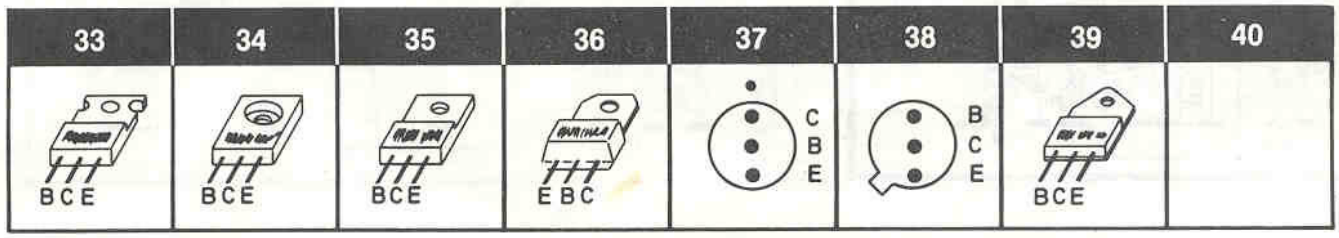
* Specially selected specimen











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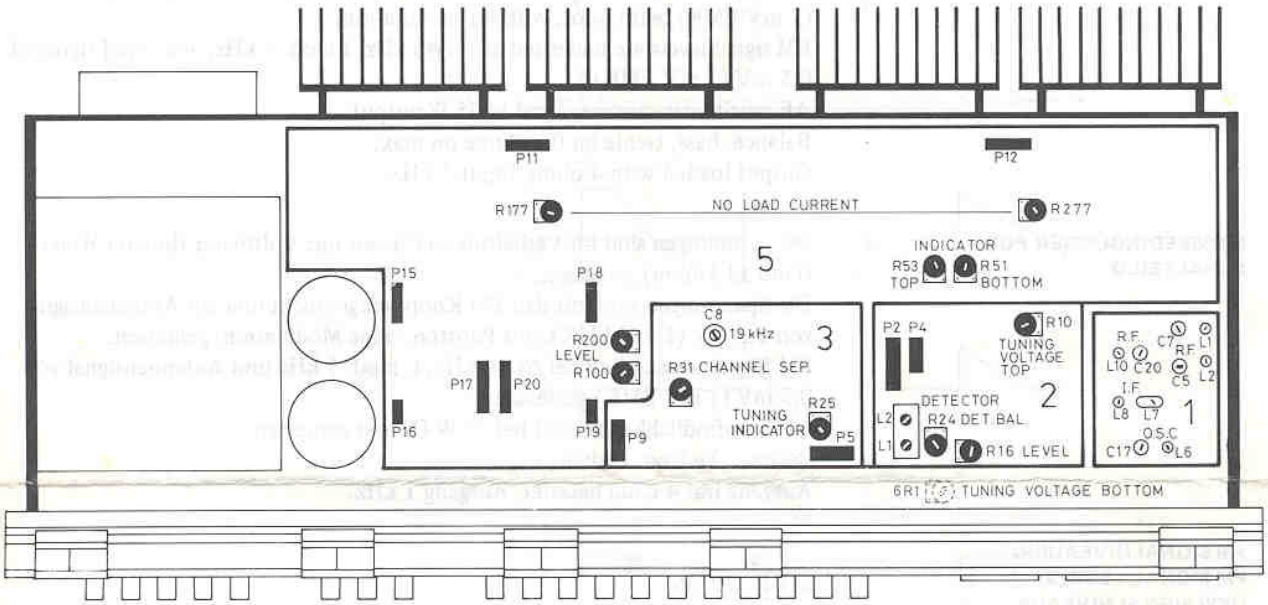
DIODE LIST

0D5	8310023	B80C5000/3000
0D6	8300195	TIL 209 A
		LED - 5075 B
1D1-1D2	8300041	BB 103 green
1D3-1D4	8300050	BB 103 blue
2D1-2D3	8300058	1N 4148
		SFD 184
2D4	8300283	6,4 V 5 %
2D5	8300058	1N 4148
		SFD 184
3D1	8300058	1N 4148
		SFD 184
4D1	8300058	1N 4148
		SFD 184
5D3-5D4	8300155	B40C800
		B80C800
5D5-5D6	8300058	1N 4148
		SFD 184
5D7	8300033	ZPD 22 V - 5 %
		BZX 79 - 22 V
5D10-5D13	8300058	1N 4148
		SFD 184
5D14	8300029	ZPD 12 V - 5 %
		BZX 79 - 12 V
5D15-5D25	8300058	1N 4148
		SFD 184
5D100/200	8300212	1N 4448
5D101/201		1N 916 B
5D102/202	8300222	ZPD 2,7 V - 5 %
		BZX 83 - 2,7 V
5D103/203	8300029	ZPD 12 V - 5 %
		BZX 79 - 12 V
5D104/204	8300058	1N 4148
5D105/205		SFD 184
6D1	8300128	ZPD 5,6 V - 5 %
		BZX 79 - 5,6 V
6D2	8300058	1N 4148
		SFD 184
9D1-9D2	8300058	1N 4148
		SFD 184


P11
P12
R177
NO LOAD CURRENT
R277
5
INDICATOR
R53 TOP
R51 BOTTOM
P15
P18
C8
19 kHz
3
R200 LEVEL
R100
R31 CHANNEL SEP.
P2 P4
R10
TUNING VOLTAGE TOP
R.F.
C7
RF
L1
L10 C20
C5
L2
P17
P20
P16
P19
P9
TUNING INDICATOR
R25
P5
DETECTOR
2
I.F.
L8
L7
1
L2
L1
R24 DET. BAL.
R16 LEVEL
O.S.C.
C17
L6
6R1
TUNING VOLTAGE BOTTOM

MÅLEBETINGELSER FOR DIAGRAM

DC spændinger er målt i forhold til stel med voltmeter (indre modstand 11 Mohm).
Spændingerne er målt med FM knappen nedtrykket og et antennesignal på 0,5 mV (1 mV EMK), med pilot, uden modulation.
FM signalniveauer er målt ved Δ f 40 kHz, f mod. 1 kHz og antennesignal på 0,5 mV (1 mV EMK).
LF følsomheder er målt ved 75 W output.
Balance, bas, diskant på 0, volume på max.
Udgang belastet med 4 ohm, input 1 kHz.

MEASURING CONDITIONS FOR DIAGRAM

DC voltages are measured in relation to chassis with voltmeter (inner resistance 11 Mohms).
Voltages are measured with FM button depressed and an aerial signal of 0,5 mV (1 mV EMK), with pilot, without modulation.
FM signal levels are measured at Δ f 40 kHz, f mod. 1 kHz, and aerial signal of 0,5 mV (1 mV EMK).
AF sensitivities are measured at 75 W output.
Balance, bass, treble on 0, volume on max.
Output loaded with 4 ohms, input 1 kHz.

MESSBEDINGUNGEN FÜR SCHALTBILD

DC spannungen sind im Verhältnis zu Chassis mit Voltmeter (innerer Widerstand 11 Mohm) gemessen.
Die Spannungen sind mit den FM Knopf eingedrückt und ein Antennensignal von 0,5 mV (1 mV EMK), mit Pilotton, ohne Modulation, gemessen.
FM Signalniveaus sind bei Δf 40 kHz, f. mod. 1 kHz und Antennensignal von 0,5 mV (1 mV EMK) gemessen.
NF Empfindlichkeiten sind bei 75 W Output gemessen.
Balance, Tiefton, Diskant auf 0, Volume auf max.
Ausgang mit 4 Ohm belastet, Ausgang 1 kHz.

FM SIGNALNIVEAUER/ FM SIGNAL LEVELS/ UKW SIGNALNIVEAUS

2TP1	20 mV
2TP2	500 mV
2TP3	50 mV

FØLSOMHEDER/ SENSITIVITIES/ EMPFINDLICHKEITEN

4TP100/200	2,2 mV
4TP101/201	200 mV
4TP102/202	200 mV
5TP100/200	166 mV
	152 mV position linear
5TP119/219	149 mV
	136 mV position linear
5TP102/202	538 mV
	492 mV position linear
5TP103/203	538 mV
5TP104/204	492 mV
5TP105/205	492 mV
5TP120/220	492 mV
5TP107/207	443 mV

TESTPUNKTER/ TESTPOINTS/ TESTPUNKTE

3TP7	19 kHz
5TP109/209	2,0 V DC measured in rel. to –35 V
5TP110/210	–2,0 V DC measured in rel. to 5TP113/213
5TP111/211	0 V ± 50 mV
5TP112/212	–2,0 V DC measured in rel. to 5TP113/213
5TP113/213	–0,7 V DC measured in rel. to 5TP114/214
5TP115/215	0,65 V DC measured in rel. to –35 V
5TP117/217	10 – 15 mV DC measured across both emitter resistors 5R178 and 5R179 (5R278 and 5R279).

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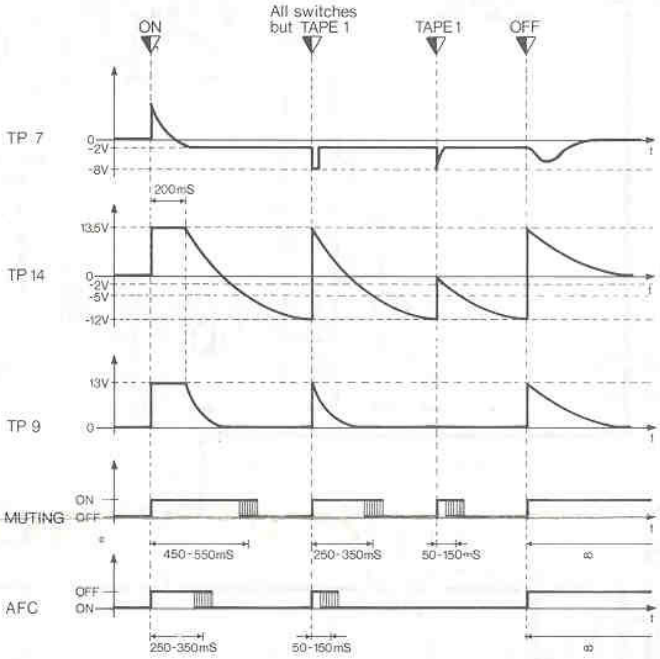
TESTPUNKTER/PC 5
TEST POINTS/PC 5
TESTPUNKTE PC 5

Conditions	FM or P1 - - P6 ON, TAPE 1 OFF						TAPE 1	FM & P1-P6
	$V_{ant.} > 10\mu V$				$V_{ant.} < 2.5\mu V$			
	AFC-ST. ON		AFC-ST. OFF		AFC-ST.	AFC-ST.		
	Indicator balance	Indicator max.off bal.	Indicator balance	Indicator max. off bal.	ON	OFF	ON	OFF
INDICATOR	Balance	OFF Bal.	Balance	OFF Bal.	OFF	OFF		OFF
MUTING	OFF	ON	OFF	OFF	ON	OFF	OFF	ON
TP6	4.6V	4.6V	4.6V	4.6V	4.6V	4.6V		0V
TP9	0V	0V	15V	15V	0V	15V		
TP10	11V	11V	15V	15V	0V	0V	15V	15V
TP20	2.75V	2.75V	2.75V	2.75V	0V	0V		0V
TP14	-12V	> 0V	-12V	-12V	>0V	-12V	-12V	-12V
TP11	4.5V	4.5V	4.5V	4.5V	8V	8V		8V
TP12	11V	9V/13V	11V	9V/13V	15V	15V		15V
TP13	11V	13V/9V	11V	13V/9V	15V	15V		15V



JUSTERING AF TOMGANGSSTRØM

Tomgangsstrømmen justeres medens modtageren er kold og med neddrejet volumekontrol.
HØJTTALERE MÅ IKKE VÆRE TILSLUTTET.
Med 5R177 (5R277) justeres indenfor området 25 – 40 mA i kollektoren af 0IC100 (0IC200), eller der justeres til 10 – 15 mV målt over begge emittermodstande 5R178 og 5R179 (5R278 og 5R279).

Bemærk: Hvis der ved fejl har været DC på udgangen, skal 5R138/238 udskiftes.

ADJUSTMENT OF NO-SIGNAL-CURRENT

Adjust no-signal-current with receiver cold and volume control turned down.
SPEAKERS MUST NOT BE CONNECTED.
With 5R177 (5R277) adjust within the area 25 – 40 mA in collector of 0IC100 (0IC200), or adjust to 10 – 15 mV measured across both emitter resistors 5R178 and 5R179 (5R278 and 5R279).

Note: If, in case of failure in the apparatus, there has been DC on the output, 5C138/238 must be replaced.

JUSTIERUNG VON LEERLAUFSTROM

Der Leerlaufstrom wird eingestellt, während der Empfänger noch kalt ist, sowie bei herabgedrehter Lautstärkeregelung.
LAUTSPRECHER DÜRFEN NICHT ANGESCHLOSSEN SEIN.
Mit 5R177 (5R277) wird innerhalb 25 – 40 mA im Kollektor von 0IC100 (0IC200), justiert, oder auf 10 – 15 mV über beiden Emitterwiderständen 5R178 und 5R179 (5R278 und 5R279) eingeregelt.

Bemerken: Wenn es bei Fehler im Gerät Gleichstrom auf dem Ausgang gegeben hat, muß 5C138/238 ausgewechselt werden.